BAKER COLLEGE
STUDENT LEARNING OUTCOMES

RAD1210 Radiologic Science I

4 Semester Hours

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1. Evaluate Imaging Equipment Operation.
    a. Discuss permanent installation of radiographic equipment in terms of purpose, components, types and applications.
    b. Discuss stationary and mobile equipment in terms of purpose, components, types and applications.
    c. Appraise the x-ray tube in a radiographic room and various types of radiographic tubes and tables.
    d. Demonstrate the four basic principles of x-ray tube movement.
2. Analyze the technical factors necessary in creating analog and digital images.
    a. Compare generators in terms of radiation produced and efficiency.
    b. Define potential difference, current and resistance.
    c. Identify the general components and functions of the x-ray tube and filament circuit.
    d. Evaluate radiation concepts, electricity and the prime factors.
    e. Illustrate the fundamentals of CR & DR image production and processing.
    f. Investigate data management and the role of PACS.
3. Describe radiographic image production.
    a. Describe various types of image receptors.
    b. Evaluate latent image formation and concepts of density (brightness) and contrast (dynamic range).
    c. Identify the factors that affect image quality and apply corrective actions for repeat exams.
    d. Examine the role of the radiographer in image analysis and quality control.
    e. Discuss the elements of a radiographic image including size and shape distortion.
    f. Identify types of image artifacts and determine the cause.
    g. Differentiate between the image-intensified and digital fluoroscopic equipment components.
4. Explain X-ray interactions within matter.
    a. Apply general radiation safety and protection practices associated with radiographic and fluoroscopic examinations.
    b. Demonstrate the purpose of the beam limiting and filtration devices.
    c. Examine different types of radiation production and scatter control devices.
    d. Practice calculations for exposure conversion related to direct and inverse relationships

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These SLOs are not approved for experiential credit.

Effective: Fall 2017